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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/614,451

07/07/2003

Toshimoto Nakagawa

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06/16/2005

EXAMINER

ARANCIBIA, MAUREEN GRAMAGLIA

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ART UNIT

PAPER NUMBER

1763

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,451

Applicant(s)

NAKAGAWA ET AL.

Examiner

Maureen G. Arancibia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-6 are objected to because of the following informalities: Line 10 of amended Claim 1 should be corrected to read "resist stripping *chamber*." (Emphasis added.) Claims 2-6 are objected to based on their dependence on Claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT Application Publication WO 93/15846 to Schroeter et al. The following rejection refers to the Figures and English Abstract (indicated at 57 on the front page of the publication) of this publication.**

Schroeter et al. teaches a spraying apparatus (Figure 1), comprising a solution tank 1; a chamber 10 in which a substrate to be processed is accommodated (Figure 1); a spray 7 that is connected to the solution tank 1 and sprays the solution onto the substrate in the chamber; a solution line (the path formed by conduits 22, 24, 29 and intervening components) that supplies the sprayed solution 13 from the chamber to the solution tank 1 (Figure 1; Abstract, Lines 11-13); a gas line 14 that supplies a mixed gas containing a solution component from the chamber to outside (Figure 1; Abstract, Lines

9-10); a gas/liquid separation block 15, 16 that is connected to the gas line, and that separates the solution component from the introduced mixed gas (Figure 1; Abstract, Lines 10-11); and a recovered solution line (indicated at the arrows 13a, 13b connected to conduit 24 in Figure 1) that is connected to the gas/liquid separation block and supplies the separated solution component to the solution tank 1 (Figure 1).

The apparatus taught by Schroeter et al. would be inherently capable of supplying a resist stripping solution to a substrate covered in resist, since the apparatus taught by Schroeter et al. is used to spray a liquid, and to separate that liquid from a gas component. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

In regards to Claim 2, Schroeter et al. teaches a separated gas supply unit 19 that receives gas separated from the solution component in the liquid/gas separation block 15, 16, and supplies the gas to a gas spout unit (opening of conduit 19 at the top of chamber 10). (Figure 1; Abstract, Lines 14-15)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeter et al. in view of U.S. Patent 5,762,749 to Suzuki et al.

The teachings of Schroeter et al. were discussed above.

Schroeter et al. does not expressly teach that the gas spout unit is disposed facing the substrate to be processed.

Suzuki et al. teaches gas spout units 2 and 3 in a processing chamber 27 facing substrate 5.

It would have been obvious to one of ordinary skill in the art to modify the apparatus of Schroeter et al. to supply the separated gas to a gas spout unit facing the substrate in the processing chamber, as taught by Suzuki et al. The motivation for doing so, as taught by Suzuki et al. (Column 7, Lines 4-6), would have been to blow off any liquid still on the substrate after using the apparatus for a wet processing method.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeter et al. in view of U.S. Patent 5,715,612 to Schwenkler.

The teachings of Schroeter et al. were discussed above.

Schroeter et al. does not teach an inert gas supply unit for supplying an inert gas to the processing chamber.

Schwenkler teaches inert gas supply unit 116. (Column 3, Lines 54-55; Column 7, Lines 14-20)

It would have been obvious to include an inert gas supply unit for supplying an inert gas to the processing chamber in the apparatus of Schroeter et al. The motivation

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for doing so, as taught by Schwenkler (Column 3, Line 55), would have been to aid in carrying the processing fluid.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeter et al. in view of Schwenkler as applied to Claim 4, and further in view of U.S. Patent 4,904,339 to Diehl et al.

The teachings of Schroeter et al. and Schwenkler were discussed above in regards to Claim 4.

The combination of Schroeter et al. and Schwenkler as applied to Claim 4 does not teach a plurality of processing chambers or a rinse chamber, or that all the chambers should be in communication with each other.

Diehl et al. teaches a plurality of processing chambers (27, 28) in communication with each other and a rinse chamber 31. (Figure 2; Column 3, Lines 12-23)

It would have been obvious to one of ordinary skill in the art in the practice of Schroeter et al. and Schwenkler to include a plurality of processing chambers and a rinse chamber in communication with each other, as taught by Diehl et al. The motivation for including a plurality of processing chambers would have been to allow for the application of distinct processing solutions or conditions. The motivation for providing a rinse chamber would have been to remove any remaining processing solution on the substrate after a wet processing method. The motivation for providing all of the chambers in communication with each other would have been to avoid unnecessary exposure of the substrate to the outside environment, thereby eliminating possible sources of contamination.

Schroeter et al. teaches that the gas/liquid separation block should be connected to the processing chamber, as was discussed in regards to Claim 1. Any one of the processing chambers in the combination of Schroeter et al., Schwenkler, and Diehl et al. would be at an earlier stage than the rinse chamber.

In regards to Claim 5, the combination of Schroeter et al., Schwenkler, and Diehl et al. does not expressly teach that the inert gas supply unit should be connected to the rinse chamber.

Schwenkler teaches that the inert gas is useful in drying the rinse water from a substrate. (Column 4, Lines 35-65)

It would have been obvious to one of ordinary skill in the art to connect the inert gas supply unit to the rinse chamber. The motivation for doing so, as taught by Schwenkler (Column 4, Lines 35-65), would have been to allow the inert gas to assist in drying the substrate after the rinsing was complete.

In regards to Claim 6, the combination of Schroeter et al., Schwenkler, and Diehl et al. does not expressly teach that the inert gas supply unit should be connected to the last of the processing chambers.

Nevertheless, it would have been obvious to one of ordinary skill in the art to connect the inert gas supply unit to the last of the processing chambers, rather than the rinse chamber. The motivation for doing so would have been to avoid contamination of the processing fluid by the rinse water.

The apparatus taught by the combination of Schroeter et al., Schwenkler, and Diehl et al. would be inherently capable of supplying either a water-based or non-water-

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based stripping solution, since the apparatus taught by Schroeter et al. is used to spray a liquid, and to separate that liquid from a gas component. This rejection is based on the fact the apparatus structure taught above has the inherent capability of being used in the manner intended by the Applicant. When a rejection is based on inherency, a rejection under 35 U.S.C. 102 or U.S.C. 103 is appropriate. (See *In re Fitzgerald* 205 USPQ 594 or MPEP 2112).

Response to Arguments

8. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

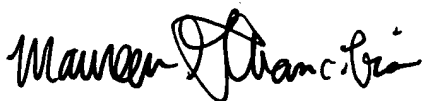
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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